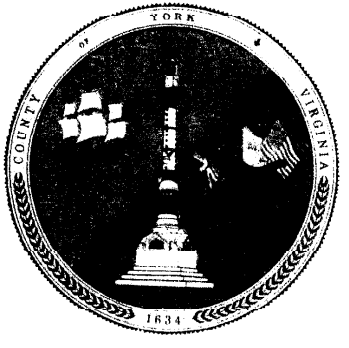
COUNTY OF YORK, VIRGINIA

1989 HORIZONTAL AND VERTICAL CONTROL MONUMENTATION REFERENCE AND RECOVERY DATA



APRIL 1990 SUPPLEMENT

PREPARED BY:

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SURVEYORS • PLANNERS

VIRGINIA BEACH, VIRGINIA

SUMMARY OF CHANGES INCORPORATED INTO THE APRIL 1990 SUPPLEMENT

Station No.	Changes
019–RESET	Original Main Station destroyed New Main Station set New Main Station elevation established
023–RESET	*New Main Station set New Main Station elevation established New RM4 set
028	Original RM3 destroyed New RM4 set
033–RESET	Original Main Station destroyed New Main Station set New Main Station elevation established New RM4 set
039	New witness post and witness post location at Main Station
057–RESET	Original Main Station destroyed New Main Station set New Main Station elevation established
060	New witness post and witness post location at RM2

*Existing Main Station and RM1 subject to destruction due to pending roadway construction.

Station No.	Changes
065-RESET	Original Main Station destroyed New Main Station set New Main Station elevation established
066	New witness post and witness post location at RM3
072	New witness post and witness post location at Main Station
073	New witness post and witness post location at Main Station and RM1
075	Original RM3 destroyed New RM4 set
083	RM3 description corrected (utility pole number)
084	New witness post and witness post location at Main Station and RM2
095	New witness post and witness post location at Main Station
105	New witness post and witness post location at RM2
110	New witness post and witness post location at RM3 Description corrected (Direction of RM3 from utility pole #KB-40)
112	Corrected RM1, RM2 and RM3 bearings

Station No.	Changes
113–RESET	Original Main Station destroyed New Main Station set New Main Station elevation established
116	New witness post and witness post location at RM1
121	New witness post and witness post location at RM1
123–RESET	Original Main Station destroyed New Main Station set New Main Station elevation established
125–RESET	Original Main Station destroyed New Main Station set New Main Station elevation established
126	New witness post and witness post location at Main Station, RM1 & RM2
127	New witness post and witness post location at Main Station
129	New witness post and witness post location at RM2

NOTICE TO USERS

Physical Description of Station Marks:

The stations consist of 3¼" diameter domed alloy disks set in 6" diameter concrete posts. The disks are stamped with a "STATION" number and a point in the center of a triangle in the center of the disk. The posts are cast in place, 36" in depth, and contain a 3/4" diameter reinforcing bar 36" in length for metal detection and stability. Each station is accompanied by two (2) nearby reference marks and one (1) distant reference/azimuth mark.

The reference monuments are of same type of construction as the station monument, but are easily distinguished from the main stations by the size and markings of the disks. The reference mark disks are only 2"in diameter and are stamped REFERENCE MARK with a crossed arrow in the center pointing to the main station monument.

The reference and recovery data sheets provide a complete and detailed description of the location of each individual main station and their respective reference marks and witness posts. To avoid unnecessary excavation, please note the location of the monument with respect to the witness post and pinpoint the location with the ties given on the reverse side of the reference and recovery data sheet before digging. NOTE: All distance ties stated in the Station Description (reverse side) are rounded to the nearest one-half (0.5) foot.

Units:

The coordinates of each main station refer to the Virginia Coordinate System of 1983–South Zone and are provided in meters, US survey feet and international feet; additionally, all bearings are state plane grid bearings. The conversions from meters to the respective feet values are as follows:

1. To convert from meters to international feet multiply meters by (100/2.54 x 12) exact, or 3.280839895 approximate.

2. To convert from meters to US survey feet multiply meters by (39.37/12) exact, or 3.280833333 approximate.

As you will note, the difference between the two conversions is very small, less than 1 part in 150,000, and can be ignored for conversions of most field measurements. The difference does become significant when converting numbers larger than 1,500 feet, i.e., meter coordinates.

Scale Factor:

The scale factor is used to convert field measurements to plane distances. Throughout the York County project area the scale factor is slightly less than one and is a function of latitude (northing). For most small survey projects an average scale factor will produce adequate results. The scale factor at each control station is printed on the reverse side of the reference and recovery data sheet. All published distances are plane distances incorporating the scale factor.

Example:

A survey project is located approximately midway between Stations 2 and 3.

To determine an average scale factor for the survey project simply average the scale factors of Stations 1 and 2.

Scale factor of Sta. 2 = 0.99994540
Scale factor of Sta. 3 = 0.99994543
Project scale factor = 0.999945415

To determine a reduced horizontal field measurement of 4863.20 feet to a plane distance, multiply the field measurement by the scale factor.

4863.20 field distance x 0.999945415 = 4862.93 plane distance. The scale factor must be applied to all measured distances to compute plane coordinates.

Convergence:

The convergency angle is used to convert geodetic or astronomic[1] azimuth to state plane azimuth. The convergence angle at each control station is printed on the reverse side of the reference–recovery sheet and is subtracted from an astronomic azimuth to determine the state plane azimuth of a line.

Example: An astronomic azimuth of a line from Station 1 to a monument is determined to be 176°16'45". The state plane azimuth equals the astronomic azimuth minus the convergence angle.

State Plane Azimuth = 176°16'45" – 01°03'44" = 175°13'01"
State Plane Grid Bearing = S04°46'59"E

[1]While the geodetic azimuth and the astronomic azimuth are not exactly equal, the difference is negligible for most survey projects.

Vertical Datum:

The station elevations are based on the current NGS published values for the following Federal Government vertical monuments which have been incorporated into the vertical network:

Monument Name	Current Published Vertical Value (in Feet)	Date of Last NGS Adjustment
Halstead	86.378	1972
S313 (VADH Reset 1975)	69.104	1975
N455	47.684	1972
R377	23.14	1983
R266 (VADH Reset 1956)	11.027	1956
L266	17.431	1953
D262	117.542	1972
K00L2	114.773	1977
G345	99.780	1959
A262	96.109	1972
K377	92.388	1972

These existing Federal Government vertical monuments are well distributed throughout the County. The published NGS values for these monuments were confirmed by conventional, accurate differential leveling methods. Additionally, all stations were heighted by the same differential leveling methods and tied to these Federal Government vertical monuments.

It appears that the adjustments to the datum by NGS have lowered the vertical plane by approximately 0.38' from the previous values published by A.D.R. Associates in 1974. Extreme caution should be exercised in attempting to integrate any previously published data with data contained herein.

Notification of disturbed or destroyed monuments:

Your assistance is requested in reporting any monument found to have been or subject to being moved, disturbed or destroyed. Please contact The Department of Planning and Community Development, County of York, at (804) 898-0080.

Use of Previously Published Data:

Again, extreme caution should be exercised in attempting to integrate previously published horizontal and vertical data with the data contained herein.